

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-21 (Cancelled)

22. (New) A composition based on zirconium oxide and cerium oxide having a zirconium oxide proportion of at least 50% by weight, a maximum reducibility temperature of at most 500°C and a specific surface area of at least 40 m²/g after calcination for 6 hours at 500°C and being in the form of a tetragonal phase.

23. (New) The composition as claimed in claim 22, further comprising at least one lanthanide other than cerium.

24. (New) The composition as claimed in claim 23, wherein the lanthanide is lanthanum, neodymium or praseodymium.

25. (New) The composition as claimed in claim 22, having a zirconium oxide content of at least 65% by weight.

26. (New) The composition as claimed in claim 22, having a maximum reducibility temperature of at most 480°C, optionally at most 400°C.

27. (New) The composition as claimed in claim 22, having a specific surface area of at least 70 m²/g, optionally at least 80 m²/g, after calcination at 500°C for 6 hours.

28. (New) The composition as claimed in claim 22, having a specific surface area of at least 30 m²/g after calcination at 900°C for 6 hours.

29. (New) The composition as claimed in claim 28, having a specific surface area of at least 45 m²/g after calcination at 900°C for 6 hours.

30. (New) The composition as claimed in claim 22, having a specific surface area of at least 25 m²/g after calcination at 1000°C for 6 hours.

31. (New) The composition as claimed in claim 22, wherein it is in the form of a solid solution of cerium, optionally with the lanthanide other than cerium, in zirconium oxide.

32. (New) A method of preparing a composition as claimed in claim 22, wherein it comprises the following steps:

- (a) forming a mixture comprising a zirconium compound, a cerium compound and, optionally, a lanthanide other than cerium;
 - (b) mixing said mixture with a basic compound, to obtain a precipitate;
 - (c) heating said precipitate in an aqueous medium; and, then,
 - (d) either firstly adding an additive, selected from the group consisting of anionic surfactants, nonionic surfactants, polyethylene glycols, carboxylic acids, salts of carboxylic acids, and surfactants of the carboxymethylated fatty alcohol ethoxylate type in the medium resulting from the previous step (c), and, then, optionally separating said precipitate;
 - (d') or, firstly separating the precipitate obtained in step (c) and, then, adding said additive to the precipitate;
 - (e) subjecting to a milling operation the precipitate obtained in step (d) or (d');
- and

- (f) calcining the precipitate obtained in step (e).
33. (New) The method as claimed in claim 32, wherein in step (e) the precipitate is calcined either in an oxidizing atmosphere or firstly in an inert gas and then secondly in an oxidizing atmosphere.
34. (New) The method as claimed in claim 32, wherein, the zirconium compound, the cerium compound and the lanthanide other than cerium, is a nitrate, acetate, chloride or ceric ammonium nitrate compound.
35. (New) The method as claimed in claim 32, wherein the zirconium or cerium compound is a sol.
36. (New) The method as claimed in claim 32, wherein, in the mixture of step (a), the cerium compound presents cerium in the Ce(III) form and during step (a) or during step (b), an oxidizing agent is added..
37. (New) The method as claimed in claim 32, wherein in step b) a basic compound the mixture is further being added into a solution of this basic compound.
38. (New) The method as claimed in claim 32, wherein in step (c) the precipitate is being heated to a temperature of at least 100°C.
39. (New) The method as claimed in claim 32, wherein in step (e), the milling is a wet milling operation.
40. (New) The method as claimed in claim 32, wherein in step (e), the milling is carried out by subjecting a suspension of the precipitate to a shearing action.
41. (New) A catalytic system, comprising a composition as claimed in claim 22.

Docket Number: RN03030

Preliminary Amendment

PCT application date: *March 17, 2004*

42. (New) A method of automobile postcombustion catalysis of exhaust gases of an internal combustion engine, said method comprising the step of treating said exhaust gases with a catalytic system as claimed in claim 41.